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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,333	03/08/2001	Patrick Defay	204251US2PCT	5071

22850 7590 12/08/2006

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EXAMINER

VILLECCO, JOHN M

ART UNIT PAPER NUMBER

2622

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,333

Applicant(s)

DEFAY, PATRICK

Examiner

John M. Villecco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 14-22, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 14-22, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Please note that this application has been docketed to a new examiner. Please direct further correspondence to examiner John Villecco.

Response to Arguments

2. Applicant's arguments filed September 22, 2006 have been fully considered but they are not persuasive.

3. On pages 9-10 of applicant's response, applicant argues that the use of Glenn is improper since Glenn teaches the use of a shutter between two different cameras. Applicant goes on to say that the examiner fails to provide rationale for the combination. However, after a review of the final rejection, the examiner believes that the use of Glenn is proper in the combination since Glenn is solving the same problem as the applicant, namely phase shifting a rotating shutter. The fact that Glenn is doing his phase shifting for two cameras is irrelevant, since Bauer discloses a rotating shutter for directing incoming light to an image pickup device and a viewfinder. Additionally, applicant argues that the examiner has not provided adequate rationale for the obviousness rejection. However, the examiner points out that he has provided rationale by showing that Glenn performs phase shifting to "cause the vertical retrace of the camera to occur when no light from the image is going to the camera".

4. Applicant maintains on pages 10-12 of applicant response that the use of Bauer and *In re Karlson* in the explanation of the examiners rejection is misplaced. *In re Karlson* states that "omission of an element and its function in a combination is an obvious expedient if the

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remaining elements perform the same functions as before”. Applicant argues that when this finding is applied to Bauer, the finding is not supported since when the prism of Bauer is removed, the claim limitation of “without further change of the viewfinder optical axis” is not met.

In response to this argument, the examiner presents two findings. Firstly, if the prism were to be considered part of the optical viewfinder, Bauer would meet this limitation, since the optical axis would not be further changed between the point at which it was reflected and the optical viewfinder – the prism being part of the optical viewfinder. Secondly, the limitation phrase “without further change of the viewfinder optical axis”, is extremely broad. What is being changed?

5. Finally, applicant has not provided any detail as to the specifics of the optical viewfinder. The only place in the applicant’s specification which hints at not changing the viewfinder optical axis is in Figure 1 and Figure 1 merely shows the optical axis to be a box. There are no details regarding the construction of the optical viewfinder. Obviously, the details of the optical viewfinder are an essential part of this invention, since the applicant continues to argue this limitation. Thus, applicant has omitted an essential structure of the invention, thus bringing up 112, 1st paragraph issues. Please see the 112, 1st paragraph rejection on the following pages.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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7. Claims 12, 14-22, 29, and 30 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The details of the optical viewfinder are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Regarding claims 14, 20, and 22, applicant claims some variation of not further changing the viewfinder optical axis after being deflected by the shutter. This appears to be a critical aspect of the applicant's rebuttal of the examiners rejection. However, the only location in the applicant's specification where the applicant discloses that the viewfinder optical axis has not been further changed occurs in Figure 1. This figure merely shows the optical viewfinder as a box in the drawing. Also, there is no disclosure in the actual written specification describing the structure of the optical viewfinder or whether or not the optical axis has been altered. The disclosure shows the optical viewfinder to be box without presenting any details. Clearly, applicant believes this feature (i.e. the optical viewfinder) is an essential element in the invention from the arguments presented. See MPEP § 2164.08(c) and MPEP § 2172.01.

8. Claims 12, 15-19, 21, 29, and 30 are rejected based upon their dependency to claims 14, 20, and 22.

9. For examination purposes it will be assumed that applicant means that the light reflected from the shutter is not deflected before it reaches the optical viewfinder section of the camera.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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11. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 20 recites the limitation "into processing means" in lines 23-24. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 12, 14, 15, 17, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Patent No. 3,692,394) in view of Ohshima et al. (U.S. Patent No. 4,812,911) and further in view of Glenn (U.S. Patent No. 4,667,226).**

15. Regarding ***claim 14***, Bauer discloses a camera comprising: an objective support configured to support an objective (Fig. 1, lens 14) having an objective focal plane (Fig. 1, element 20) and a main optical axis (arrow entering lens until rotary reflective shutter 16); an optical viewfinder (Fig. 1, eyepiece 28) located off the main optical axis and configured to provide an off-field view image because the light reaching the optical viewfinder is different from the light reaching the imaging plane, the light of the optical viewfinder being designated the off-field view (Fig. 1); and a shutter configured to allow the light of the main optical axis to pass through the shutter, in an open position, and configured to direct the light to the viewfinder along

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a viewfinder optical axis, in a closed position (Fig. 1, element 16). Bauer discloses the shutter comprises at least one rotative element including at least one mirror part corresponding to the closed position and at least one aperture part corresponding to the open position (Fig. 1, elements 30 and 32). Additionally, applicant claims that the light is reflected from the shutter to the viewfinder without further changing the optical axis. Clearly the prism (24) of Bauer is part of the optical viewfinder. Thus, the optical axis of the light reflected from the shutter is not further changed from the point of the reflecting shutter to the time it reaches the optical axis, including the prism (24).

Bauer does not disclose a spectral splitter configured to split light passing along the main optical axis into spectral components; photoelectric-effect sensors each configured to receive a respective one of the spectral components; and a shutter configured to direct the light to the viewfinder along a viewfinder optical axis, in a closed position, without further change of the viewfinder optical axis.

However, Ohshima discloses a spectral splitter configured to split light passing along the optical axis into spectral components (Fig. 1, element 8); and photoelectric-effect sensors each configured to receive a respective one of the spectral components (Fig. 1, element 9A-9C). One of ordinary skill in the art at the time of the invention would have substituted the spectral splitter and photoelectric-effect sensors for the film of Bauer in order to capture digital images in studio quality. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the spectral splitter and photoelectric-effect sensors for the film of Bauer in order to capture digital images in studio quality.

Additionally, the combination of Bauer and Ohshima fails to specifically disclose a control device maintaining the at least one rotative element at a speed of rotation proportional to a frequency of a synchronization signal used for reading of the photoelectric-effect sensors; and a position sensor configured to detect a position of the at least one rotative element, the position sensor and the control device enabling the at least one rotative element to be phase-shifted with respect to the synchronization signal. However, Glenn teaches an automatic control device (a motor control comprising a phase locked loop circuit) for the at least one rotative element (Fig. 1, element 190; Fig. 4, element 195) at a speed of rotation proportional to the frequency of a signal given by a processing means (Fig. 1, element 190; Fig. 4, element 191) to the automatic control device (col. 5, lines 14-41), the signal being a synchronization signal for the reading of the sensors by a processing means (col. 5, lines 23-26), and in that the camera comprises a sensor of the position of the at least one rotative element (Fig. 1, element 40), the position sensor and the automatic control device enabling the at least one rotative element to be phase-shifted with respect to the synchronization signal (col. 5, lines 47-51). One of ordinary skill in the art would have provided the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60 Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera (col. 5, lines 47-60). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60 Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera.

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16. As for **claim 12**, Bauer discloses the camera comprises at least one mode in which the shutter periodically switches between the closed and the open positions (Abstract: lines 1-4). Bauer does not disclose the switching period is smaller than the duration of retinal persistence. However, Glenn teaches a reflecting rotating shutter (col. 4, lines 51-60; Fig. 1, element 101) that switches at a rate of 60 times per second (16.7 milliseconds/switch (col. 2, lines 17-25). Furthermore, Glenn teaches motion reduces perception for about 300 milliseconds (col. 3, lines 49-51). Clearly, the switching period is smaller than the duration of retinal persistence. It would have been obvious to one of ordinary skill in the art at the time of the invention to configure the switching rate of the shutter to be consistent with typical video frame rates (~30 full frames per second or ~60 interlaced frames per second) (col. 1, lines 35-40 and 65-70; col. 2, lines 8-10). As a result, one of ordinary skill in the art would have configured the switching period to be smaller than the duration of retinal persistence in providing video at standard frame rates.

17. Regarding **claim 15**, Glenn discloses the photoelectric-effect sensors are frame transfer sensors (col. 3, lines 14-19).

18. Regarding **claim 17**, Bauer discloses the at least one rotative element includes at least two mirror parts and at least two aperture parts, the mirror parts all cover a first angular sector and the aperture parts all cover a second angular sector (Fig. 2, elements 16, 30, 32).

19. Regarding **claim 21**, Ohshima discloses an adapter (Fig. 1, lenses 3 and 4; col. 3, lines 12-19) configured to receive the light passing along the optical axis after having passed through the shutter and the focal plane, wherein the spectral splitter is configured to receive the light passing along main optical axis after having passed through the adapter and is configured to split

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the received light along separate split patterns, and the shutter is positioned between the objective and the objective focal plane.

20. ***Claim 22*** is considered substantively equivalent to claim 14. Please see the discussion of claim 14 on the previous pages.

21. **Claims 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Patent No. 3,692,394) in view of Ohshima et al. (U.S. Patent No. 4,812,911) and further in view of Glenn (U.S. Patent No. 4,667,226) and Okada et al. (U.S. Pat. No. 4,758,905).**

22. Regarding ***claim 16***, Bauer discloses the shutter comprises modes that can be selected by a user, including: a viewfinder mode fixing the at least one rotative element at a position in which the mirror part intersects the main optical axis (col. 1, lines 6-16, col. 2, lines 59-65); and a combined mode spinning the at least one rotative element such that the mirror part and the aperture part periodically intersect the main optical axis at a period smaller than a duration of retinal persistence (col. 2, lines 4-28; also see rejection of claim 12).

None of Bauer, Ohshima, or Glenn discloses a shutter mode comprises a user selectable video mode corresponding to at least one rotative element that always has an aperture part that intersects the main optical axis. However, Okada discloses a shutter mode comprising a user selectable video mode corresponding to at least one rotative element that always has an aperture part that intersects the main optical axis (col. 8, lines 26-42). One of ordinary skill in the art would have configured the shutter to remain continuously open for the purpose of capturing images continuously (col. 8, lines 26-42). As a result, it would have been obvious to one of

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ordinary skill in the art at the time of the invention to have provided a video mode fixing at least one rotative element at a position in which the aperture part intersects the main optical axis for the purpose of capturing images continuously.

23. Regarding **claim 18**, Bauer discloses a reflective rotating shutter. Neither Bauer nor Ohshima disclose there are at least two rotative elements having a same axis of rotation and offset by an angular offset such that the mirror parts of the at least two rotative elements overlap at least partially.

However, Okada discloses the shutter comprises at least two rotative elements having a same axis of rotation and offset by an angular offset such that the mirror parts of the rotative elements overlap at least partially (Fig. 1, elements 1, 2, 3, and 5; col. 3, line 59-col.4, line 16). One of ordinary skill in the art would have provided overlapping shutter blades for the purpose of enabling a user to adjust the size of each opening (col. 4, lines 14-17). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the overlapping shutter blades of Okada with the reflecting rotating shutter of Bauer for the purpose of enabling a user to adjust the size of each opening.

24. Regarding **claim 19**, Okada further discloses the angular offset can be selected by the user (col. 3, line 59-col. 4, line 18; Fig. 1, elements 1,2, and 3).

25. **Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Patent No. 3,692,394) in view of Ohshima et al. (U.S. Patent No. 4,812,911) and further in view of Glenn (U.S. Patent No. 4,667,226) and Hines (U.S. Patent No. 6,122,455).**

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26. Regarding **claim 29**, none of Bauer, Ohshima, or Glenn discloses the off-field view image includes a useful field image detected by the photoelectric-effect sensors and a peripheral field image contacting a periphery of the useful field image. However, Hines discloses a viewfinder with a wider field of view than will actually be photographed (Fig. 7A). One of ordinary skill in the art would have configured the viewfinder of Bauer with a wider field of view than will actually be photographed in order to help the photographer compose the picture (col. 6, lines 46-48). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have configured the viewfinder of Bauer to include a useful field image detected by the photoelectric-effect sensors and a peripheral field image contacting a periphery of the useful field image for providing a viewfinder with a wider field of view than will actually be photographed in order to help the photographer compose the picture.

27. **Claim 30** is considered substantively equivalent to claim 29. Please see the discussion of claim 29 above.

28. **Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer, II (U.S. Patent No. 3,692,394) in view of Ohshima et al. (U.S. Patent No. 4,812,911) and further in view of Glenn (U.S. Patent No. 4,667,226) and Anderson (U.S. Pat. No. 6,215,523).**

29. Regarding **claim 20**, Bauer discloses a camera comprising: an objective support configured to support an objective (Fig. 1, lens 14) having an objective focal plane (Fig. 1, element 20) and a main optical axis (arrow entering lens until rotary reflective shutter 16); an optical viewfinder (Fig. 1, eyepiece 28) located off the main optical axis and configured to

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provide an off-field view image because the light reaching the optical viewfinder is different from the light reaching the imaging plane, the light of the optical viewfinder being designated the off-field view (Fig. 1); and a shutter configured to allow the light of the main optical axis to pass through the shutter, in an open position, and configured to direct the light to the viewfinder along a viewfinder optical axis, in a closed position (Fig. 1, element 16). Bauer discloses the shutter comprises at least one rotative element including at least one mirror part corresponding to the closed position and at least one aperture part corresponding to the open position (Fig. 1, elements 30 and 32). Additionally, applicant claims that the light is reflected from the shutter to the viewfinder without further changing the optical axis. Clearly the prism (24) of Bauer is part of the optical viewfinder. Thus, the optical axis of the light reflected from the shutter is not further changed from the point of the reflecting shutter to the time it reaches the optical axis, including the prism (24).

Bauer does not disclose a spectral splitter configured to split light passing along the main optical axis into spectral components; photoelectric-effect sensors each configured to receive a respective one of the spectral components; and a shutter configured to direct the light to the viewfinder along a viewfinder optical axis, in a closed position, without further change of the viewfinder optical axis.

However, Ohshima discloses a spectral splitter configured to split light passing along the optical axis into spectral components (Fig. 1, element 8); and photoelectric-effect sensors each configured to receive a respective one of the spectral components (Fig. 1, element 9A-9C). One of ordinary skill in the art at the time of the invention would have substituted the spectral splitter and photoelectric-effect sensors for the film of Bauer in order to capture digital images in studio

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quality. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the spectral splitter and photoelectric-effect sensors for the film of Bauer in order to capture digital images in studio quality.

Additionally, the combination of Bauer and Ohshima fails to specifically disclose a control device maintaining the at least one rotative element at a speed of rotation proportional to a frequency of a synchronization signal used for reading of the photoelectric-effect sensors; and a position sensor configured to detect a position of the at least one rotative element, the position sensor and the control device enabling the at least one rotative element to be phase-shifted with respect to the synchronization signal. However, Glenn teaches an automatic control device (a motor control comprising a phase locked loop circuit) for the at least one rotative element (Fig. 1, element 190; Fig. 4, element 195) at a speed of rotation proportional to the frequency of a signal given by a processing means (Fig. 1, element 190; Fig. 4, element 191) to the automatic control device (col. 5, lines 14-41), the signal being a synchronization signal for the reading of the sensors by a processing means (col. 5, lines 23-26), and in that the camera comprises a sensor of the position of the at least one rotative element (Fig. 1, element 40), the position sensor and the automatic control device enabling the at least one rotative element to be phase-shifted with respect to the synchronization signal (col. 5, lines 47-51). One of ordinary skill in the art would have provided the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60 Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera (col. 5, lines 47-60). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60

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Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera.

Ohshima discloses splitting imaging light into different light components and then capturing each component on a different image pickup element. None of Bauer, Ohshima, or Glenn discloses a screen to view the synthesis of the different light components after their passage into a processing means.

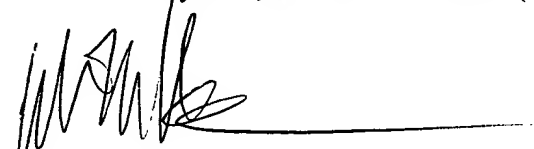
However, Anderson discloses a camera comprising an LCD screen 402 (Fig. 3). One of ordinary skill in the art would have provided an LCD screen in order to view captured images. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a screen configured to display the synthesis of the light components after passage into processing means in order to view captured images.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (571) 272-7319. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'John M. Villecco', followed by a long horizontal line extending to the right.

John M. Villecco
November 27, 2006